

APPLICANT(S): BAGLIONI, Piero, et al.  
SERIAL NO.: 10/509,107  
FILED: September 27, 2004  
Page 3

### AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application the claims indicated as cancelled:

1. (Currently Amended) A process for the preparation of ~~oxides and~~ unmixed hydroxide hydroxides of group II metals and transition metals in the form of micro-particles or nano-micro-particles comprising ~~the following steps:~~

a) ~~double-exchange reaction~~ reacting, in aqueous or organic phase, ~~between a metal compound and an alkaline hydroxide to form an unmixed metal hydroxide of group II metals or transition metals.~~

b) ~~calcination of the metal hydroxide obtained in step a).~~

2. (Currently Amended) The process according to claim 1, wherein the group II metals and transition ~~metal-oxides or hydroxides~~ metals are selected from the group consisting of ~~oxides or hydroxides of:~~ zinc, zirconium, titanium, magnesium, iron, cobalt[[,]] or nickel.

3. (Original) The process according to claim 1, wherein the metal compound is a salt soluble in water.

4. (Currently Amended) The process according to claim 3, wherein the salt is a: chloride, nitrate[[,]] or acetate.

5. (Currently Amended) The process according to claim 3, wherein the salts are:  $ZrCl_4$ ,  $ZrOCl_2$ ,  $TiCl_4$ ,  $TiF_4$ ,  $TiOCl_2$ ,  $Mg(NO_3)_2$ ,  $Co(NO_3)_3$ ,  $ZnCl_2$ ,  $Ni(NO_3)_2$ [[,]] or  $FeCl_3$ .

6. (Currently Amended) The process according to claim 1, wherein:

a) a solution of a group II or transition metal chloride and an aqueous solution of an alkaline hydroxide are made to react in homogeneous phase; and

b) the metal hydroxide ~~formed in the previous step~~ is collected by centrifugation, filtration or

APPLICANT(S): BAGLIONI, Piero, et al.  
SERIAL NO.: 10/509,107  
FILED: September 27, 2004  
Page 4

decanting and optionally purified by washing or treatment with ultrasound;

~~e) the hydroxide is calcinated in air or in inert atmosphere.~~

7. (Original) The process according to claim 6, wherein the chloride of the transition metal is dissolved in water or in an organic solvent miscible with water.

8. (Original) The process according to claim 7, wherein the organic solvent is selected from the group consisting of diols, 1,2,3-propanetriol and dimethyl sulphoxide.

9. (Original) The process according to claim 8, wherein the diol is selected from the group consisting of 1,2-ethanediol and 1,2-propanediol.

10. (Original) The process according to claim 6, wherein the reaction in step a) is carried out at a temperature ranging between 50° and 180°C.

11. (Currently Amended) The process according to claim ~~21~~ 6, wherein the calcination takes place at a temperature ranging between 250° and 1100°C

12. (Currently Amended) ~~Oxides and hydroxides~~ Hydroxides of group II and transition metals in the form of particles having dimensions ranging between 10 and 1000 nm obtained according to the process defined in claim 1.

13. (Currently Amended) ~~Oxides and hydroxides~~ The hydroxides according to claim ~~claims~~ 12, wherein the particles have dimensions ranging between 50 and 500 nm.

14. (Currently Amended) Dispersions containing the ~~oxides or~~ hydroxides as defined in claim 12.

15. (Original) Dispersions according to claim 14, wherein the liquid of the dispersion is selected from the group consisting of water, ethanol, propanol and isopropanol.

APPLICANT(S): BAGLIONI, Piero, et al.  
SERIAL NO.: 10/509,107  
FILED: September 27, 2004  
Page 5

16. (Currently Amended) Process for the ~~treatment~~ coating of ceramic surfaces, textile products, or paper materials ~~wherein oxides and~~ comprising:

coating the ceramic surfaces, textile products or paper materials with hydroxides as defined in claim 12~~are used~~.

17. – 20. (Cancelled)

21. (New) The process according to claim 1 further comprising preparation of an unmixed oxide of group II metals or transition metals in the form of micro-particles or nano-particles by:

performing calcination of the metal hydroxide to form an unmixed metal oxide of group II metal or transition metal.

22. (New) The process according to claim 21, wherein the metal hydroxide is calcinated in air or in inert atmosphere.

23. (New) Oxides of group II and transition metals in the form of particles having dimensions ranging between 10 and 1000 nm obtained according to the process defined in claim 21.

24. (New) The oxides according to claim 23, wherein the particles have dimensions ranging between 50 and 500 nm.

25. (New) Dispersions containing the oxides as defined in claim 23.

26. (New) Dispersions according to claim 25, wherein the liquid of the dispersion is selected from the group consisting of water, ethanol, propanol and isopropanol.

27. (New) Process for coating of ceramic surfaces, textile products, or paper materials, the process comprising:

APPLICANT(S): BAGLIONI, Piero, et al.  
SERIAL NO.: 10/509,107  
FILED: September 27, 2004  
Page 6

coating the ceramic surfaces, textile products or paper materials with oxides as defined in claim 21.